

SEQUENCE LISTING

<110> Sera, Takashi

5 <120> Nuclear-Envelope and Nuclear-Lamina Binding Chimeras for
Modulating Gene Expression

<130> 109845-163

10 <160> 18

<170> PatentIn version 3.2

<210> 1

15 <211> 25

<212> PRT

<213> Artificial Sequence

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20 <223> Zinc finger domain

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25 <222> (2)..(5)

<223> Amino acids 2-5 are Xaa wherein Xaa = any amino acid, and up to
two amino acids can be missing.

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30 <221> MISC_FEATURE

<222> (7)..(18)

<223> Xaa can be any amino acid

<220>

35 <221> MISC_FEATURE

<222> (20)..(24)

<223> Amino acids 20-24 are Xaa wherein Xaa = any amino acid, and up to
two amino acids can be missing.

40 <400> 1

Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His

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25

5

<210> 2

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10 <213> Artificial Sequence

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<223> Zinc finger domain

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<222> (1) .. (3)

<223> Xaa can be any amino acid

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<222> (5) .. (8)

<223> Amino acids 5-8 are Xaa wherein Xaa = any amino acid, and up to two amino acids can be missing

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<222> (10) .. (14)

30 <223> Xaa can be any amino acid

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<222> (15) .. (15)

35 <223> Amino acid 15 is Z(-1) wherein Z(-1) = Arg, Lys, Gln, Asn, Thr, Met, Leu, Ile, Glu or Asp.

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40 <222> (16) .. (16)

<223> Xaa can be any amino acid

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 <222> (17)..(17)
 <223> Amino acid 17 is Z2 wherein Z2 = Ser, Arg, Asn, Gln, Thr, Val,
 Ala, Asp or Glu.
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 <222> (18)..(18)
 <223> Amino acid 18 is Z3 wherein Z3 = His, Lys, Asn, Gln, Ser, Ala,
 10 Val, Thr, Asp or Glu..
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 <222> (18)..(18)
 15 <223> Amino acid 18 is Z3 wherein Z3 = His, Lys, Asn, Gln, Ser, Ala,
 Val, Thr, Asp or Glu.
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 20 <222> (19)..(20)
 <223> Xaa can be any amino acid
 <220>
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 25 <222> (21)..(21)
 <223> Amino acid 21 is Z6 wherein Z6 = Arg, Lys, Gln, Asn, Thr, Tyr,
 Leu, Ile, Met, Glu or Asp.
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 30 <221> MISC_FEATURE
 <222> (23)..(27)
 <223> Amino acids 5-8 are Xaa wherein Xaa = any amino acid, and up to
 two amino acids can be missing
 35 <220>
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 <222> (29)..(32)
 <223> Xaa can be any amino acid
 40 <400> 2

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His Xaa Xaa Xaa Xaa
 20 25 30

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 <212> PRT
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 <223> Zinc finger domain

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 <221> MISC_FEATURE
 <222> (13)..(13)
 <223> Amino acid 13 is Z(-1) wherein Z(-1) = Arg, Lys, Gln, Asn, Thr,
 Met, Leu, Ile, Glu or Asp.

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 <220>
 <221> MISC_FEATURE
 <222> (15)..(15)
 <223> Amino acid 15 is Z2 wherein Z2 = Ser, Arg, Asn, Gln, Thr, Val,
 Ala, Asp or Glu.

25
 <220>
 <221> MISC_FEATURE
 <222> (16)..(16)
 <223> Amino acid 16 is Z3 wherein Z3 = His, Lys, Asn, Gln, Ser, Ala,
 Val, Thr, Asp or Glu.

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 <221> MISC_FEATURE
 <222> (19)..(19)
 <223> Amino acid 19 is Z6 wherein Z6 = Arg, Lys, Gln, Asn, Thr, Tyr,
 Leu, Ile, Met, Glu or Asp.

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 <222> (19)..(19)
 <223> Amino acid 19 is Z6 wherein Z6 = Arg, Lys, Gln, Asn, Thr, Tyr,
 Leu, Ile, Met, Glu or Asp.

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 Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa Ser Xaa Xaa
 1 5 10 15

Leu Gln Xaa His Gln Arg Thr His Thr Gly Glu Lys
 20 25

5 <210> 4
 <211> 5
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10 <220>
 <223> peptide
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15 Gly Gly Gly Gly Ser
 1 5

20 <210> 5
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 <212> PRT
 <213> Human immunodeficiency virus

25 <220>
 <221> misc_feature
 <223> HIV Tat protein domain
 <400> 5

30 Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
 1 5 10

35 <210> 6
 <211> 9
 <212> DNA
 <213> Human immunodeficiency virus

40 <220>
 <221> misc_feature
 <223> DNA binding domain

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gcagaagcc 9

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<223> DNA target sequence

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gtgtgggtga gtgagtgtg 19

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<210> 8
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<212> DNA
<213> Artificial Sequence

25
<220>
<223> DNA target sequence

30
<400> 8
ggggctgggg gcggtgtct 19

35
<210> 9
<211> 7
<212> PRT
<213> Simian virus 40

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<220>
<221> misc_feature
<223> Peptide from SV40 large T antigen

40
<400> 9

Pro Lys Lys Lys Arg Lys Val
1 5

5 <210> 10
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10 <220>
 <223> Peptide, residues 43-58 of the Antennapeida homeodomain protein
 <400> 10

15 Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
 1 5 10 15

20 <210> 11
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 <213> Herpes Simplex Virus

25 <220>
 <221> misc_feature
 <223> Residues 267-300 of the HSV VP22 protein
 <400> 11

30 Asp Ala Ala Thr Ala Thr Arg Gly Arg Ser Ala Ala Ser Arg Pro Thr
 1 5 10 15

35 Glu Arg Pro Arg Ala Pro Ala Arg Ser Ala Ser Arg Pro Arg Arg Pro
 20 25 30

40 Val Glu

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<220>

<223> Basic peptide with cellular uptake signal activity

<400> 12

Tyr Ala Arg Ala Ala Ala Arg Gln Ala Arg Ala

1 5 10

<210> 13

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Basic peptide with cellular uptake signal activity, "R9"

<400> 13

Arg Arg Arg Arg Arg Arg Arg Arg Arg

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<210> 14

<211> 16

<212> PRT

<213> Artificial Sequence

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<223> D-penetratin peptide

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<221> MISC_FEATURE

<222> (1)..(16)

<223> All amino acids are in the D-form.

<400> 14

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys

1 5 10 15

5 <210> 15
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<212> PRT
<213> Artificial Sequence

10 <220>
<223> Peptide Syn B1 from Antennapedia homeodomain protein
<400> 15

Arg Gly Gly Arg Leu Ser Tyr Ser Arg Arg Arg Phe Ser Thr Ser Thr
1 5 10 15

15 Gly Arg

20 <210> 16
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<213> Artificial Sequence

25 <220>
<223> L-SynB3 peptide from Antennapedia homeodomain protein
<400> 16

30 Arg Arg Leu Ser Tyr Ser Arg Arg Arg Phe
1 5 10

35 <210> 17
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40 <220>
<223> D-SynB3 peptide from Antennapedia homeodomain protein

<220>

<221> MISC_FEATURE

<222> (1)..(10)

<223> All amino acids are in the D-form.

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<400> 17

Arg Arg Leu Ser Tyr Ser Arg Arg Arg Phe

1 5 10

10

<210> 18

<211> 8

<212> PRT

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<213> Artificial Sequence

<220>

<223> Flag Epitope Peptide

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<400> 18

Asp Tyr Lys Asp Asp Asp Asp Lys

1 5

25